before I found abundant specimens of *Blepharisma*, very distinctly characterized by their form and their rose-colour. Here again, and during a torrid heat, there had been life latent for several months, whether of animalcules, or of their germs, or of their cysts. —*Comptes Rendus*, November 7, 1881, p. 750.

The Tertiary Lake-basin of Florissant, Colorado.
By S. H. Scudder*.

Mr. Scudder describes in this paper the position, characters, palæontology, and age of the remarkable lacustrine deposits of Florissant, Colorado, and illustrates the subject with a map. His observations in the region were made in 1877, along with Mr. A. Lakes, whose geological notes are incorporated, and also Mr. F. C. Bowditch. The lake-basin, nearly nine miles long, according to the map, occupies a low depression among the mountains at the southern extremity of the Front Range of Colorado, "at no great distance from Pike's Peak," and sends its arms up the valleys on either side. The beds are whitish, drab, and brownish shales below, with fine and coarse sandstone above; and, besides, trachyte occurs in the adjoining promontories and along the margin of the basin. The material of the coarser beds directly above the shales, from a locality visited by Mr. Scudder (south of the house of Mr. A. Hill), according to microscopic investigations by Mr. M. E. Wadsworth, is tufaceous; and the shales are "simply the finer material of the tufas laid down in laminæ of various thickness and coarseness." The shales at this place are about 22¼ feet thick. The fossils from the Florissant shales include:—of Hymenopterous insects, several species of Apidæ and Andrenidæ, about 30 of Vespidæ or wasp-like Hymenoptera, 50 species or more of ants (mostly Formicidæ, with some Myrmicidæ and Poneridæ) represented by about 4000 specimens, about 80 species of Ichneumonidæ, over 100 other species of Hymenopters; of Lepidopters perhaps a dozen species; of Dipters, some thousands of specimens and a large number of species, among them 1000 specimens of Bibionidæ, and "a vast host of Muscidæ and allied kinds;" of Coleopters, over 300 species of the normal series, and about 120 of the Rhynchophorous section; of Hemipters, more than 100 species of the Heteroptera and 65 of Homoptera; of Orthopters, many species; of Neuropters, largely the Phryganidæ, of which there are 15 or 20 species, 6 species of the Termites family, and others; of spiders, 30 species, all Araneæ; one Myriopod, an *Iulus*; of mollusks, only one species, that a *Planorbis;* of fishes, 8 species, all described by Cope, except one by Osborn, Scott, and Speir; of birds, several feathers, a single tolerably perfect Passerine bird, described by J. A. Allen, under the name *Palæospiza bella*, and a plover, *Charadrinus Sheppardianus*, described by Cope.

* Pp. 279–300 of the Bulletin, vol. vi. no. 2, of the U.S. Geol. and Geogr. Survey, under Dr. F. V. Hayden (Dept. of the Interior).

The fossil plants include large silicified trunks of trees, probably Sequoias, and many species, 90 to 100 in all, about 40 of which have already been described by Lesquereux, besides some flowers with long stamens. The assemblage of plants indicates, according to Lesquereux, a climate like that of the northern shores of the Gulf of Mexico; of fishes, according to Cope, of latitude 35°; of insects, according to Scudder, a still warmer climate.

The age of the deposits is referred by the most recent and best authorities to the later Eocene or early Miocene.

The insects are soon to be described by Mr. Scudder in a quarto volume and illustrated by a large number of plates.—*Amer. Journ. Sci.* Nov. 1881, p. 409.

On the Nature of Cyathophycus. By C. D. Walcott.

This genus was originally described by me under the impression that the form was an alga of a peculiar appearance *. On reading the observations of Prof. R. P. Whitfield on the nature of *Dictyophyton* and its affinities to certain sponges †, it was instantly suggested that *Cyathophycus* was probably a member of the same group. A special effort was made to obtain perfectly preserved specimens of the genus, and with such success that the reticulate structure mentioned in the original description was found to be formed of a horizontal and perpendicular series of narrow bands crossing each other at right angles so as to form a network with rectangular interspaces, the narrow bands being formed of thread-like spicula resting on, or one against the other. The spicula differ in size; some are filiform, while others are stronger and more prominent; and all appear to be replaced by pyrite, as in the Devonian specimens studied by Principal Dawson and Professor Whitfield. Through the kindness of Professor Whitfield I have had the opportunity of examining the specimens referred to by him, and now have little doubt that the Utica slate form belongs to the same class, although probably differing generically from the Devonian species, and is an earlier representative of this interesting group of sponges.

Cyathophycus reticulatus presents a beautiful appearance when a large number of specimens are flattened out on a slab of the dark slate. Each individual lies free from its associates; and the striking resemblance to *Euplectella* is seen at a glance, although the convex summit of the latter genus is absent, and the margin curves over and downward on the inside to a considerable distance at least; how far is yet unknown. The cylindrical forms vary in length from 10 to 350 millim., and the spheroidal species, *C. subsphæricus*, from 3 to 60 millim. in diameter, each species preserving the rounded rim of the circular aperture at the summit.—*Amer. Journ. Sci.* Nov. 1881, p. 394.

* Trans. Albany Institute, vol. x. 1879.

† Amer. Journ. Science, xxii. July & Aug. 1881; and pp. 167, 237 of the present volume of the 'Annals.'